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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/036,999	01/14/98	SHIFF	C PMS241460

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EXAMINER

CYGAN, M

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 12/13/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/006,999

Applicant(s)

SHIFF ET AL.

Examiner

Michael Cygan

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6-8 and 10-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-8 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 14) ☒ Notice of References Cited (PTO-892)
- 15) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 17) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 18) ☐ Notice of Informal Patent Application (PTO-152)
- 19) ☐ Other: _____

Art Unit: 2856

DETAILED ACTION

1. Applicant's amendment filed on 30 September 1999 has been received and entered in the case. Claims 2, 5, and 9 were cancelled. New claims 10, 11, and 12 were added.
2. The text of those sections of Title 35, US Code not included in this action can be found in a prior Office action.
3. Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 3 is a restatement of claim 1.

Claim Rejections - 35 USC § 103

4. Claims 11, 3, 4, 6-8, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borschardt in view of Leu.

With respect to claims 1 and 3, Borschardt teaches the claimed invention except for the use of a particulate filtration column. Leu teaches the use of a particulate filtration column in a centrifuge (figures 4a, 4b, 4c; column 2, lines 62-65; column

Art Unit: 2856

3, lines 4-9 and 27-40). It would be obvious to use the column of Leu in the continuous flow centrifuge of Borschardt since Leu states that the addition of a media column increases the separation ability of the centrifugation; during centrifugation, analytes are separated into different media according to their densities (column 3, lines 39-40).

With respect to claims 4 and 12, Borschardt in view of Leu teaches the claimed invention as stated above except for the use of glass or sand particulate material. Borschardt discloses that it is known in the art to use sand columns to filter oocysts from water in flow systems (column 2, lines 17-31). It would be obvious to use sand columns in the centrifuge of Borschardt in replacement of the media of Leu, as sand columns are known to filter oocysts.

With respect to claims 6-8, Borschardt teaches that it is known in the art to perform microorganism, cryptosporidium in particular, concentration in a fluid stream of a continuous flow centrifuge (column 2, lines 41-42).

With respect to claims 10-11, the claimed invention is taught by Borschardt in view of Leu as stated above, except for the size ranges stated. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use sand of 200-50 micrometers or 120-50 micrometers, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum of workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233.

Art Unit: 2856

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Olsson discloses the technique of mounting a separation column in a centrifuge to perform protein separation. Chen-Wu discloses a pore-based filtering apparatus for separation of biological agents.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cygan whose telephone number is 703-305-1973. The examiner can normally be reached on 8:30-6 M-Th, alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 703-305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7725 for regular communications and 703-308-7725 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3431.

Application/Control Number: 09/006,999


Page 5

Art Unit: 2856

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mtc

December 6, 1999

A handwritten signature in black ink, appearing to be "M. D. Jones", written in a cursive style.

Maxton Williams
Supervisory Patent Examiner
Technology Center 2800